

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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ACKNOWLEDGEMENT

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PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

24.08.2004

Applicant's or agent's file reference

P81011PC000200 AEM

IMPORTANT NOTIFICATION

International application No.

PCT/EP 03/09781

International filing date (day/month/year)

03.09.2003

Priority date (day/month/year)

23.09.2002

Applicant

TELEFONAKTIEBOLAGET L M ERICSSON (PUBL) et al

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P81011PC00/DCO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA416)	
International application No. PCT/EP 03/09781	International filing date (<i>day/month/year</i>) 03.09.2003	Priority date (<i>day/month/year</i>) 23.09.2002
International Patent Classification (IPC) or both national classification and IPC H04B7/005		
Applicant TELEFONAKTIEBOLAGET L M ERICSSON (PUBL) et al		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 30.01.2004	Date of completion of this report 24.08.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Schreib, F Telephone No. +49 89 2399-7114 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP 03/09781

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-11 as originally filed

Claims, Numbers

1-20 as originally filed

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP 03/09781

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4-11,13,14,16,17,19,20
	No: Claims	1,2,3,12,15,18
Inventive step (IS)	Yes: Claims	4-11,13,14,16,17,19,20
	No: Claims	1,2,3,12,15,18
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

1. The following document D1 is referred to in this communication, the numbering will be adhered to in the rest of the procedure.

D1: US-B-6 173 1621 (JOHANSSON MATHIAS ET AL) 9 January 2001 (2001-01-09)

2. The present application does not meet the requirements of Article 33(2) PCT, because the subject-matter of independent claims 1,12,15 and 18 is not new.
- 2.1 Document D1 (the references in parentheses applying to this document) discloses as in claim 1:

A method of power control in a mobile telecommunications network (*see col. 1, lines 5-8 and lines 35-46*), the method comprising the steps of: calculating a signal strength reference value (*see col. 2, lines 42-44; SIR is taken as signal strength according to claim 2*) for each of a plurality of channels (=various radio bearers in col. 4, lines 12-13) in use based on a previously calculated value for that channel (*see col. 4, lines 11-15, "channel" is interpreted as physical data channel*); maintaining the calculated signal strength reference value (=SIR target) for a channel at or above a predetermined minimum signal strength reference value (*col. 8, lines 54-64; the predetermined minimum signal strength reference value is an implicit feature of Thresh 1*); and determining a signal strength reference value to be used for all of said plurality of channels in use, as the highest of all of the calculated signal strength reference values (*see col. 4, lines 11-15 and col. 7, lines 17-19*).

Hence, all the features of claim 1 are known from D1.

- 2.2 The subject-matter of independent apparatus claims 12, 15 and 18 corresponds to the subject-matter of method claim 1, therefore the above argumentation correspondingly applies to these claims.
3. The subject-matter of claim 2 is not new in the sense of Article 33(2) PCT. The use of a Signal-to-Interference Ratio reference value is already known from D1

(see col. 1, line 66 - col. 2, line 3 and see col. 4, lines 11-15).

4. The subject-matter of claim 3 is not new in the sense of Article 33(2) PCT. The feature of incrementally increasing or decreasing the signal strength value dependent upon a quality criteria check is already known from D1 (*see col. 7, lines 12-21 and Figure 5, the Delta signs show "incrementally increasing or decreasing"*).

5. The subject-matter of claim 4 meets the requirements of Article 33(2) PCT. As there is no document showing the calculation of the value $SIR_e(k)$ like the formula in claim 4, the subject-matter of claim 4 is novel.

Taking into account the clarification of the term $e(k)$ of claim 4 proposed in the communication dated 14.04.2004 in section 6 the subject-matter of claim 4 meets the requirements of Article 33(3) PCT. There is no document in the available prior art proposing to calculate the reference SIR by feeding the measured block error rate (BLER) in a PI algorithm like in the formula of claim 4. Therefore the problem to be solved can be regarded as how to improve the precision of the power control in a mobile radio network. the solution is to calculate the reference SIR by a PI algorithm using the BLER.

6. Claims 5-11 are dependent on claim 4 and as such also meet the requirements of the PCT with respect to novelty and inventive step. Claim 11 only meets the requirements as far as it depends on claims 4-10.
7. Claims 13, 16 and 19 correspond to the clarified claim 4. Therefore the argumentation of section 5 of this communication also applies to these claims.
8. Claim 14 meets the requirements of the PCT with respect to novelty and inventive step as far as it depends on claim 13, claim 17 meets the requirements of the PCT with respect to novelty and inventive step as far as it depends on claim 16, and claim 20 meets the requirements of the PCT with respect to novelty and inventive step as far as it depends on claim 19.

Remarks with respect to clarity of claims:

9. It is clear from the description on page 4, lines 27-30 and page 8, lines 14-15 that the following feature is essential to the definition of the invention:

All transport channels are multiplexed on a common physical channel.

There is no technical sense in controlling the power of a plurality of channels according to the requirements of the weakest channel if there is no relation between the channels.

Since independent claims 1, 12, 15 and 18 do not contain this feature they do not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

10. The term e(k) used in claim 4 is unclear because the term "e" is not defined in the claim (Article 6 PCT).

By adding the features of claim 5 claim 4 could be clarified.

11. The term "BLER" used in claim 5 is not necessarily known to the person skilled in the art, thereby rendering the definition of the subject-matter of said claim unclear (Article 6 PCT). Therefore the claim should be clarified by replacing "BLER" with "block error rate (BLER)".

12. The relation between "calculated signal strength reference value" and SIR is unclear in claims 13, 16 and 19 (Article 6 PCT). A signal strength value does not imply automatically the presence of an interferer, contrary to signal to interference ratio (SIR). Therefore it is not obvious for the person skilled in the art to regard SIR as a signal strength value.

Claims 13, 16 and 19 could be clarified by adding the features of claim 2.

13. As explained below, some of the features in the apparatus claim 13, 16 and 19 relate to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

In claims 13, 16 and 19 the wording "wherein the step of .." refers to a method claim and not to an apparatus claim. There should be means adapted to perform the step of the method.

14. The subject-matter of claims 16 and 19 does not meet the requirements of Article

6 PCT. The formula for $SIR_r(l,k+l)$ is not clear as the term SIR_{inc} is not defined.